

WHAT IS CLAIMED IS:

1. A process for producing a mutagenized *Sporidiobolus ruineniae* strain having a Q10 productivity of greater than 1.38 mg of Q10/g of dry biomass, comprising
 - (a) subjecting a *Sporidiobolus ruineniae* strain to genetic manipulation by mutagenesis;
 - (b) subjecting mutagenized *Sporidiobolus ruineniae* strain to a selection where the mutagenized *Sporidiobolus ruineniae* strain is cultivated under conditions which inhibit growth of the *Sporidiobolus ruineniae* strain employed in (a), the conditions being chosen so that the mutagenized strain overcomes the growth inhibition through a Q10 production which is increased by comparison with the *Sporidiobolus ruineniae* strain employed in (a), grows in a fermentation medium; and
 - (c) isolating the mutagenized strain from the fermentation medium.

2. The process as claimed in claim 1, wherein the mutagenesis is selected from the group consisting of an action of mutagenic substances, and high-energy radiation on the *S. ruineniae* genome, and the kill

rate in the mutagenesis is from 30 to 99%.

3. The process as claimed in claim 1,

wherein selection of the *Sporidiobolus ruineniae* strain with a Q10 productivity of greater than 1.38 mg of Q10/g of dry biomass is brought about by conditions which generate an oxidative stress.

4. The process as claimed in claim 3, comprising

generating the oxidative stress by a substance selected from the group consisting of paraquat, hydrogen peroxide, unsaturated fatty acids, and linolenic acid.

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5. The process as claimed in claim 1,

wherein selection of the *Sporidiobolus ruineniae* strain with a Q10 productivity of greater than 1.38 mg of Q10/g of dry biomass is effected by an inhibitor of the respiratory chain.

6. The process as claimed in claim 5,

wherein the inhibitor of the respiratory chain is selected from the group consisting of antimycin A,

piericidin, mucidin, rotenone, and menadione.

7. The process as claimed in claim 1,

wherein selection of the *Sporidiobolus ruineniae* strain with a Q10 productivity of greater than 1.38 mg of Q10/g of dry biomass takes place through inhibition of a step in the Q10 biosynthetic pathway of *Sporidiobolus ruineniae*.

8. The process as claimed in claim 7,

wherein the inhibition of a step of the Q10 biosynthetic pathway of *Sporidiobolus ruineniae* is effected by a substance selected from the group consisting of glyphosate, lovastatin, cerivastatin, atorvastatin, compactin, or ethionine.

9. A mutated *Sporidiobolus ruineniae* strain obtainable by means of a process as claimed in claim 1, which strain has a Q10 productivity of more than 1.38 mg of Q10/g of biomass.

10. A process for the production of Q10, comprising

cultivating cells of a strain as claimed in claim 9 in a culture medium;

isolating the cells after a growth period; and

isolating Q10 therefrom.

11. The process as claimed in claim 10,
wherein the cells are cultured in fed-batch mode, where
an initial growth phase in batch mode is followed by
additional feeding of nutrient sources in a feed in order to
compensate for consumption thereof.
12. The process as claimed in claim 11,
wherein the nutrient sources in the feed are selected
from the group consisting of a C source, an N source and
mixture thereof.
13. The process as claimed in claim 12,
wherein the C source in the feed is selected from the
group consisting of glycerol, glucose, sucrose, molasses,
maltose, and acetate and the N source is selected from the
group consisting of ammonia, ammonia salts, yeast extract,
soybean peptone, malt extract, and corn steep liquor.